The World Wide Decline of Amphibians – many species are hanging on by a thread.

A Serious Problem

"After many years of worrying about amphibian declines and trying to pinpoint the exact cause of the problem, scientists are now faced with an even more serious problem. The declines have become so severe that scientists are now watching their study animals become extinct. We have now moved into the phase of amphibian extinctions rather than studying amphibian declines and 43% of all amphibians are threatened with extinction. When a whole group of a particular type of animal starts to disappear then we need to worry. Amphibians play an essential part in the food web of life as top insectivores and prey to many other animals, and if you remove this important link then one can only guess about the ramifications, but there is no doubt that they will be serious."

(http://www.nzfrogs.org/Amphibian+Extinction+Crisis.html)

Anecdotal evidence of amphibian declines noted at the First World Congress of Herpetology in 1989.

"The issue of declining frog populations was first highlighted in 1989 when a rather large group of over 1400 from 60 countries throughout the world, descended upon the delightful town of Canterbury in the UK for the First World Congress of Herpetology. It was at this meeting that a disturbing number of researchers reported apparent declines in their study populations and of growing concern were the reports of declining populations from seemingly pristine habitats."

(http://www.nzfrogs.org/Amphibian+Extinction+Crisis.html).

Attendees of the First World Congress of Herpetology go home and start long term research projects to determine whether the anecdotal evidence is actually indicative of a larger problem; the research shows that amphibians are indeed in decline worldwide.
(http://www.nzfrogs.org/Amphibian+Extinction+Crisis.html)

Possible causes of amphibian declines.

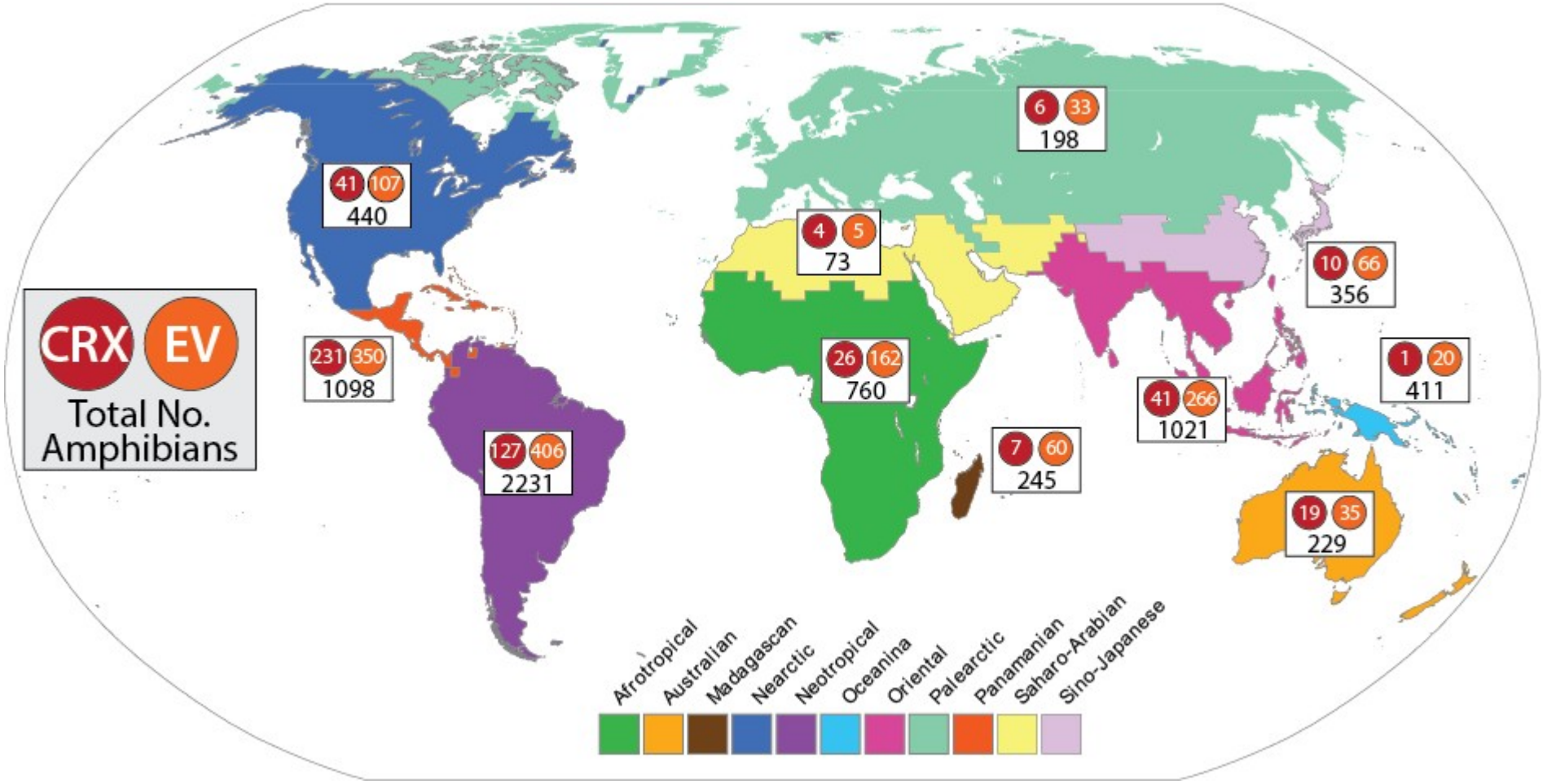
- Chytrid fungus. (Batrachochytrium dendrobatidis) (Bd)
- Climate change.
- Habitat loss.
- Hunting.
- Pollution.
- Predators and disease.
- UV radiation.
- Changes in PH.

(http://www.nzfrogs.org/Amphibian+Extinction+Crisis.html)

Amphibians world wide.

(https://amphibiaweb.org/declines/declines.html#map)

The tallies of species are: 1) In red: Number of Extinct, Extinct in the wild or Critically Endangered species; 2) In orange, Number of Endangered or Vulnerable species; 3) In white, Total number of species within a biome.



Australia.

- At least 7 species of amphibians lost to Chytrid.
- Worse drought on record dries up rivers.
- Gerry Marantelli and his wife Erika are working to save frogs.
- Marantellis evacuate frogs from drought stricken rivers and put them back when drought ends.
- Marantellis restock frogs in areas where they have been wiped out by chytrid.
- Frogs seem to be gaining resistance to chytrid.

(Frogs, The Thin Green Line, PBS Nature video on Canvas)

Central America.

- In 1992 Dr. Karen Lips notices mysterious die off of frogs in Costa Rica.
- A couple of years later frogs died off in Panama.
- Rainforests, once noisy with frogs are now silent.
- Chytrid identified as the cause of frog die offs in Central America.
- In Panama, biologists evacuate frogs from rainforest, ahead of chytrid invasion, to the El Valle Amphibian Conservation Center, a project of the Houston zoo, run by Edgardo Griffith and his wife Heidi Ross.
- Amphibian habitat lost to development in Panama.

United States.

- Amphibians particularly hard hit in the western United States.
- Dr. Roland Knapp, working to save the mountain yellow legged frog in mountain lakes in the Sierras from non-native trout, finds a worse enemy - Chytrid.
- Dr. Tyrone Hayes, at UC Berkeley, finds deformed frogs in agricultural areas and discovers that atrazine, a common herbicide, can change male frogs into females.

(Frogs, The Thin Green Line, PBS Nature video on Canvas)

Amphibians, the canary in the coal mine!

- Frogs are considered bellwethers for the environment.
- Because their skins are so permeable, they are especially sensitive to changes in the environment.
- Declines in birds, insects, and other invertebrates noted over the same period as the decline in amphibians.

(Frogs, The Thin Green Line, PBS Nature video on Canvas)

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https://e360.yale.edu/digest/forty-percent-of-the-worlds-bird-populations-are-in-decline-new-study-finds
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(https://e360.yale.edu/features/insect_numbers_declining_why_it_matters)

Time to wake up and smell the roses-while there are still roses left to smell.

- A chain is only as strong as its weakest link.
- If the biosphere collapses, so do we – end of story.